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Subject: Clean & Prosperous Insitute Comments on Climate Commitment Act CR-102

Summary of Comments & Recommendations

The Clean and Prosperous Institute (CPI) appreciates the efforts of the Department of Ecology in launching a critical, nation-leading cap-and-invest program and the opportunity for substantive public comment. CPI's comments, including this summary and the additional detailed discussion attached, highlight a handful of considerations that are important in creating a highly-effective, transparent program while maintaining the integrity of the Climate Commitment Act (CCA) as intended by the Legislature.

CPI supports the continued program nexus with criteria pollutant exposure and environmental justice processes and outcomes. While this rulemaking does not concern the overlay criteria for the use of program revenue, the Legislature provided authority to the Department to help achieve priority air quality outcomes through the distribution of no-cost allowances and eligibility of offsets as a compliance mechanism. We highlight two areas where the proposed rule aligns the dual objectives of local air quality improvement and greenhouse gas reduction:

- WAC 173-446-220 (page 37): "Ecology must consider the products and criteria pollutants produced by the facility, as well as the local environmental and health impacts associated with the facility when setting the allocation baseline."
- WAC 173-446-600 (page 136): "Ecology may reduce the limits in (a), (b), and (c) of this subsection for a specific covered entity or opt-in entity if ecology, in consultation with the environmental justice council, determines that the covered or opt-in entity has or is likely to: (i) Contribute substantively to cumulative air pollution burden in an overburdened community identified by ecology pursuant to RCW 70A.65.020 (1)(a) in consultation with the environmental justice council. (ii) Violate any permits required by any federal, state, or local air pollution control agency where the violation may result in any increase in emissions."

CPI review of the preliminary regulatory analysis (PRA) indicates that the case for additional price containment mechanisms is less pressing than the scenarios presented by Vivid Economics may suggest. CPI finds that a more realistic set of assumptions significantly lowers the anticipated range of allowance prices. Without relying on frontloading Allowance Price Containment Reserve (APCR) allowances, CPI estimates that allowance prices would start lower and not approach the price ceiling until at least 2030. As described in greater specificity in the detailed discussion section below, there is no near-term supply scarcity in allowances for compliance purposes. The program already contains robust price containment mechanisms available if needed in the early years of the program. The Department has maintained the measured use of these other mechanisms, which should be allowed to operate to their full potential if called upon. In frontloading APCR units, we encourage the Department to consider the risks of oversupply and overheated program revenues to the detriment of their effective deployment. Alternative approaches to frontloading APCR allowances could include: delaying entry or setting purchase limits on General Market Participants, setting the price ceiling to more closely resemble a maximum acceptable allowance price, and leaning more heavily on lower-risk Price Ceiling Units.

CPI recommends that the Department evaluate additional scenarios more consistent with the likeliest program outcomes. Our detailed comments describe some shortcomings of the PRA scenarios and suggest that new scenarios representing a fuller set of relevant factors and providing a more realistic range of outcomes be considered in the Department's final program design choices. It would enhance stakeholder understanding and increase data transparency if more model assumptions and outputs were publicly available.

To most confidently and accurately forecast CCA outcomes, the projections commissioned by the Department must include the impact of revenue invested in reducing GHG emissions. By not accounting for billions of dollars in investments directed by the state and consigned revenue use by utilities, the projections likely overestimate the needed compliance instruments and overstate projected allowance prices. The analysis should also consider how the increasing value of no-cost allowances distributed to EITEs may motivate private investments financed by reselling allowances.

A primary consideration for the Department is ensuring the rate of decline in the annual allowance budget is consistent with statutory targets and the proportion of the covered emissions baseline. The cap decline rate is influential on program costs and compliance obligations. CPI's review indicates that a 7% rate of decline, as set in the proposed rule, exceeds the amount necessary for consistency with statutory targets based on a proportional reduction from baseline emissions levels. Nearly halving covered emissions over eight years is a 6.1% rate of decline and is consistent with the rate established in the OFM Fiscal Note for the enacting legislation and the intent of the law.

Detailed Discussion

PRICE AND EMISSIONS CONTAINMENT MECHANISMS ARE ROBUST

Price containment mechanisms already contained in the design of the CCA include:

- A price ceiling and price ceiling units (PCU);
- A feedback loop, where no-cost allowances may re-enter the market as prices rise to levels that unlock private investment in decarbonization within those sectors;
- Allowance Price Containment Reserve (APCR) allowances;
- The intent and prospect of linking to broaden program coverage across jurisdictions;
- Availability of future vintage allowances;
- Limited use of approved offsets; and
- Indefinite banking of allowances.

At the same time, the CCA includes mechanisms to ensure the cap's integrity in the course of halving emissions from 2015-19 levels by 2030. Among the mechanisms that protect the integrity of the cap are:

- Removal of auctioned allowances equivalent to offset use;
- An emissions containment reserve (ECR),
- A price floor, and
- Incentivizing additional reductions from gas and power utilities through consigned revenues from the sale of their no-cost allowances.

CPI is encouraged that throughout the CR-102 rulemaking process the Department has considered using all these design mechanisms, drawing heavily on the learned experience from other jurisdictions. We believe the Department has sufficient mechanisms to manage the cost and cap integrity relationship given the most realistic price trajectories without added emphasis on the APCR through frontloading.

ALLOWANCE PRICES ARE LIKELY TO BE LOWER THAN THE *PRA* SCENARIOS

CPI believes the scenarios presented in the Preliminary Regulatory Analysis (PRA) and subsequent market analysis overstate the likelihood of the higher allowance prices.. This is based consideration of the following:

- The scenarios conducted by Vivid Economics show sufficient allowance supply through regular quarterly auctions, annual no-cost distribution, and annual APCR release without frontloading to meet *business as usual* emissions subject to the program through 2027. These allowances are sufficient in total volume for compliance of all projected covered emissions within the program through 2030 *under the primary frontloading scenario presented (Scenario H.1 in the PRA Appendix H)*. Through the first compliance period, there would be over 16 million excess compliance instruments (8.3% greater cumulative supply than demand) available relative to

compliance requirements. The availability of future vintage allowances also adds supply, although it is not clear how or if these factor into the scenario modeling. These datapoints indicate that there is no near-term supply scarcity outside of widespread speculation and that significant banking of allowances is available based on an 8% surplus in available compliance instruments through 2027 plus the potential added availability through future vintage allowances

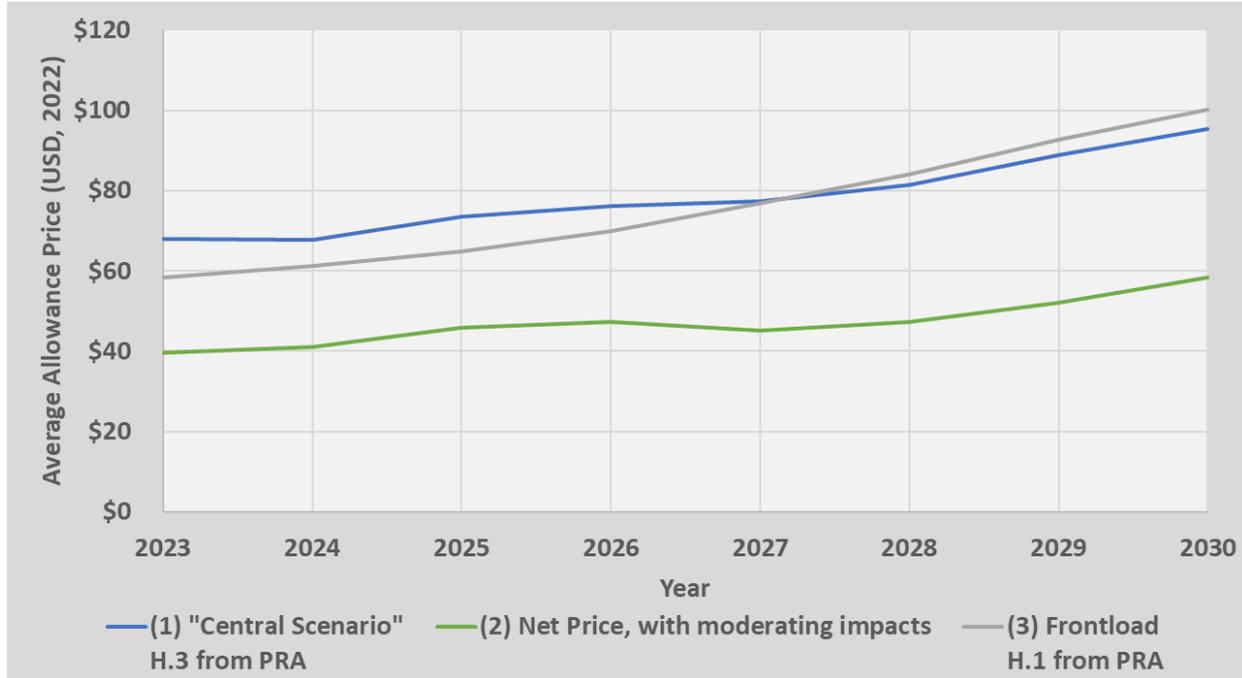
- With APCR tier 1 prices of \$45 in 2023 and \$58 in 2028, and tier 2 prices of \$58 in 2023 and \$74 in 2028, there is limited economic utility in early sales rather than annual availability of APCR allowances before they are required for compliance.
- The California-Quebec program has entered its more stringent post-2020 program phase and has sold out seven consecutive current vintage auctions. In six of those auctions, future vintages also sold out. Prior to two low-demand auctions coinciding with the initial months of Covid-19 and a sharp decline in economic activity, twelve consecutive auctions had sold out (including eight out of twelve future vintage auctions). Despite consistently selling out allowances at auction, settlement prices have never exceeded \$31 for current vintage and \$34 for future vintage, which could be considered a lower bound for Washington’s allowance prices.
- There are many likely components absent from the main scenario examined in the PRA (H.1, the frontloading through 2030 scenario) or the “central” scenario upon which various scenarios are applied. While querying sensitivity of one program condition at a time is a useful exercise, what is ultimately needed is a best guess of prevailing conditions around which to center this sensitivity. Although presented in more detail than other scenarios, the 2030 Frontloading scenario is *not a best guess at program outcomes and should not be used as the most likely or featured scenario upon which to base program design*. Likely program outcomes or elements of the program that can be adjusted through design decisions include:
 - *Offsets and Complementary Policies*. The alternate PRA scenarios point towards the use of less expensive offsets for compliance, which should be expected as a primary cost containment mechanisms, and the implementation of programs that are currently law and in rulemaking (Clean Fuel Standard, Clean Vehicles Program) at roughly \$2-\$5 each. A combined impact of \$5 less per allowance is a reasonably conservative estimate to apply to a best guess scenario;
 - *Anticipated linking*. The program is designed with the intent to link. While this does require a set of conditions to be assessed and met through a program review process, in CPI’s estimation, it is more likely that covered parties will behave as if program linking is expected at some point rather than assuming linking will not occur. The economic risk of hedging against banking and getting it wrong (banking occurs but allowances stockpiled on assumption it would not) are massive - much larger than paying \$13 more for a tier 1 APCR allowance or \$16 more for a tier 2 allowance in 2028 rather than 2023. As a proxy for covered party behavior based on a modest likelihood of linking, the latest linking date (2030) presented in the PRA scenarios should be used as a conservative, best guess assumption. To assume covered party behavior that does not anticipate linking does not

represent a most likely outcome or rational investment risk behavior. The modeled impact of anticipated 2030 linking ranges between a reduction in projected allowance prices of \$10 in 2023 and \$23 in 2030;

- Faster Decarbonization of Covered Emissions. Faster decarbonization of covered emissions than in the central scenario can be anticipated due to two primary drivers not considered in the PRA scenarios: (1) Investments of program revenues that reduce future emissions; and (2) a feedback mechanism where higher allowance prices incentivize additional action from sectors with consigned or no-cost allowances. As a proxy for this combined impact, the combined impact of the Faster Power Sector Decarbonization (H.22) and Faster Transport Decarbonization (H.24) is a reasonable estimate, a steady \$8-\$9 lower per allowance through 2030.¹
- Involvement of General Market Participants (GMP): Deploying this price containment approach requires a change to the proposed rules concerning eligible participants. This is based on Vivid Economic’s scenario, H.15, with lower GMP involvement leads to \$3-\$5 lower allowance prices in the first compliance period and minimal impact in the second compliance period. A full delay of GMP entry through the first compliance period would have a bigger price impact than this. Therefore, the H.15 scenario prices can be used as a conservative estimate for a likeliest outcome if this program design change is implemented;
- Based on these four price moderating impacts, the net allowance price decrease from combining several more likely Vivid Economics scenarios (2) relative to the central scenario, H.3 (1) is evaluated in the table and chart below. For comparison, the frontload through 2030 H.1 scenario (3) is presented since it is the main scenario evaluated throughout the PRA.

Year	(1) "Central Scenario" H.3 from PRA	PRICE MODERATING IMPACTS (vs. Central Scenario)					TOTAL	(2) Net Price, with moderating impacts	(3) Frontload H.1 from PRA
		Offsets + Comp Policies	2030 Linking	High Hurdle Rate	Investment Proxy (Faster Decarb)				
2023	\$68	\$5	\$10	\$5	\$9	\$28	\$40	\$58	
2024	\$68	\$5	\$10	\$4	\$8	\$27	\$41	\$61	
2025	\$73	\$5	\$10	\$3	\$9	\$28	\$46	\$65	
2026	\$76	\$5	\$12	\$3	\$9	\$29	\$47	\$70	
2027	\$77	\$5	\$17	\$2	\$8	\$32	\$45	\$77	
2028	\$81	\$5	\$20	\$1	\$8	\$34	\$47	\$84	
2029	\$89	\$5	\$23	\$0	\$9	\$37	\$52	\$93	
2030	\$95	\$5	\$23	\$0	\$9	\$37	\$58	\$100	

¹ Climate Commitment Act derived revenue is first and foremost intended to accelerate GHG emissions reductions. These reductions will certainly overlap with covered emissions sources, reducing future demand for allowances in a way that is not considered in the Vivid Economic scenarios. Even at relatively low-cost effectiveness (\$250 per tCO₂e abatement cost with emissions reductions spread out over 10 years of a project “measure life”, two-years lag between revenue received and program started, and a 60% share of emissions reductions occurring within the covered sectors), the cumulative emissions reduction from covered emissions is around 10 MtCO₂e. Unlike frontloading, which shifts in time *when* allowances are available but not the cumulative supply, the impact of investments would be a net decrease in allowance demand.



If anything, allowance prices may be more likely to go below those projected in the net price scenario (2) than to go above. Downward pressure on allowance prices from three conditions could factor in and are worth exploring in the Department’s program rule review and through the deployment of modeling scenarios:

- A rate of allowance budget decline consistent with a proportional share of statutory limits. A 6.1% (49% over 8 years) decline rather than 7% (56% over 8 years) adds liquidity of supply over the life of the program. Since these are fully additional, unlike frontloading, the price impact would likely be greater and more durable (not disappearing in the second compliance period) than the frontloading scenario which projects to dampen prices by \$6-\$10 over the first compliance period with increased prices in the second compliance period.²
- Better investment performance from state-directed revenue that targets a reasonable cost-effectiveness performance and better leverage other funds. The likelihood of this outcome

² A more gradual decrease in the annual allowance budget can be expected to result in lower allowance prices by increasing the available supply of allowances. At the same time, this rate of decrease would maintain full consistency with the intent of law in contributing to 2030 and subsequent emissions limits. The primary approach proposed in the draft rule to temper early allowance price levels is to bring forward an additional 15.5 million Allowance Price Containment Reserve (APCR) allowances for availability in year one of the program. The cumulative allowances in the market from a more gradual rate of decline are a greater volume and represent additional (rather than borrowed from the future) compliance instruments. CPI calculations indicate a 6.1% rate of decline would result in a cumulative budget increase of 21.4 million allowances (19.8 million distributed through no-cost allocation and regular auction, 1.6 million placed in reserves), a volume greater than the frontloaded APCR allowances that Ecology has proposed. These are net additions in program supply rather than a shift in available supply that would be there through 2030 anyways through frontloading.

would be reduced by mechanisms that increase the initial surge of revenue, such as frontloading vintagelless APCR allowances. Given concerns of high allowance prices, these investments are likely to face close scrutiny.

- Increased allowance supply liquidity enabled by the “future vintage” auctions with 5% of allowances from three years in the future made available for auction to all market participants. It is unclear whether this program feature, which is effectively already a built-in frontloading of supply for future use, is factored into the market analysis and economic modeling. If this increased early supply is not factored in to the PRA scenarios, there are potentially already more allowances available with a price moderating impact than is being assumed.

TRANSPARENT SCENARIO MODELING ENABLES BETTER INSIGHTS

As CPI has closely reviewed the PRA and subsequent market modeling and analysis documentation, there remain points of clarification and transparency that would be useful. The market modeling and analysis describe assumptions that program participants have limited foresight in the number of years they plan ahead but clear foresight on allowance prices within a given scenario. However, the scenarios indicate that future expectations of allowance scarcity and rising allowance price influence near-term allowance banking behavior, and this demand impacts compliance costs. The scenarios include both 3-year (“limited foresight”) and 4-year (full compliance period) foresight horizons. Notably, the limited foresight scenario returns among the sharpest first and second-year allowance price decline relative to the “central scenario,” including \$16 lower prices in 2023.

The various scenarios clearly show longer-term foresight towards compliance from expectations around allowance availability influence near-term behavior. A prime example of this is within the PRA scenario of anticipated linkage starting in 2030. If foresight on purchase and banking of allowances is limited to four years, the impact of linkage starting in 2030 should not register until 2026. However, the market analysis projects allowance prices that are \$10 lower in 2023-25, \$12 lower in 2026, and \$17-\$23 lower in 2027-2029.

Understanding assumptions about behavior are critical. Therefore, CPI requests the following:

1. Increased transparency of assumptions, as the projections of near-term allowance prices are tied to these assumptions, and those projections have been influential in program design; and
2. Provide a complete dataset for each scenario described, including annual purchases and retirements of all allowance types (no-cost, current vintage, future vintage, and APCR allowances). Relevant information based on program design would extend to the banked inventory, unsold allowances, and allowances transferred to the emissions containment reserve after going unsold for 24 months.

CONSIDERATION OF FRONTLOADING APCR ALLOWANCES

The high demand levels in the PRA are a result of entities loading up on non-expiring, bankable, vintageless allowances for future compliance in a hedge against anticipated higher future costs. In response to this behavioral assumption, the rule proposes frontloading (borrowing allowances from future years) eight years of reserve allowances from the APCR, making nearly 19 million allowances available from the reserve in the first program year, 2023. The regulatory analysis provides the following justification for this approach:

This will greatly increase the number of allowances available for auction from the APCR in the early years and have a moderating effect on allowance prices. It will also make more allowances available at the lower APCR prices, meaning parties would have less need to purchase price ceiling units at a higher price.

While CPI favors a rule design that considers the potential of much higher than expected allowance prices, we are not convinced this approach strikes the right balance. CPI review of the PRA scenarios indicates that these frontloaded allowances would not be necessary for any compliance until at least 2028, and not in significant volumes until at least 2029. Immediately making so many vintageless APCR allowances available long before they are needed for compliance creates several risks:

(1) *Allowance Oversupply*. Oversupply in the California market has continued to linger as an area of major debate in its program review and updates. Here are two recommended references for review on this issue:

- For context on where the program currently stands with respect to oversupply: *Independent Emissions Market Advisory Committee 2021 Annual Report* (<https://calepa.ca.gov/2021-iemac-annual-report/>).

“All told, some 321 million allowances were banked into the market’s post-2020 period, equal to more than the emissions reductions expected from the program over the coming decade. An additional reserve supply of allowances totaling 274 million tons resides in public accounts and could also enter the market, depending on future prices.... Whatever the explanatory factors, the number of allowances held in private and public accounts casts uncertainty over the state’s ability to hit its 2030 emissions limit. These findings also offer an opportunity for the Air Resources Board to take stock of the program and consider adjustments to allowance supplies going forward.”

- For context on the origins of oversupply and banked allowances, David Roberts *California’s cap-and-trade system may be too weak to do its job*, Grist, 2018 provides a useful explanation and history (<https://www.vox.com/energy-and-environment/2018/12/12/18090844/california-climate-cap-and-trade-jerry-brown>).

- (2) Frontloaded sales of APCR allowances have a cascading effect of increasing revenues to higher than expected levels before mechanisms and programs are in place to effectively distribute those revenues in worthwhile and impactful investments. This increases the likelihood that those dollars are less effective and less equitable in returning emissions reductions and other priority co-benefits. It may also increase the potential that funds are diverted by the Legislature for other purposes. Either of these outcomes would lead to suboptimal program performance.
- (3) A high volume of allowances intended for later compliance use and without purchase limits is likely to create winners and losers among covered parties based solely on the ability to stockpile allowances upfront. This could disadvantage smaller covered parties and those that have smaller operating margins, for whom long-term price hedging is not a viable option.

Our program review and understanding of other jurisdictions leads us to conclude that the risk of deploying an additional price containment measure (frontloading APCR allowances) should be carefully considered. This is all the more so if these allowances are coupled with no purchase limits and designated as “vintageless”. Unintended consequences in subsequent years of the program that are difficult to manage or correct should be balanced against projected short-term price savings of \$6-10 per allowance through 2026 followed by higher allowance prices in the subsequent compliance periods especially in light of other price moderating outcomes. Once sold or distributed, the Department does not have a mechanism for clawing back an allowance. It can be banked and traded for the lifetime of the program, and there is limited clarity about how vintageless allowances may behave relative to vintaged allowances that have a clear order of retirement.

As an alternative strategy, one pressure-release mechanism is already available and can be solidified: price ceiling units (PCU). These are released and immediately retired only on an as needed basis at the defined price ceiling, and can complement an annual release of APCR allowances by vintage year. As an approach that precedes any program linking and comes with fewer and less consequential long-term risks, the Department could consider a lower price ceiling which would provide a *de facto* upper bound on allowance prices in early years. A PCU cannot be banked or traded. Such units must be immediately retired and entities only purchase what is needed for compliance.

Three program features mitigate concerns about PCU existing outside or above the cap. First, the revenue from selling a PCU is deposited into an account for the Department to expend specifically to achieve an equivalent emissions reduction, the firmest cost-effectiveness requirement in the program. Second, the Department can, on a clean one-to-one basis, reduce future allowance budgets equivalent to PCU use to maintain the integrity of the allowance budget. Finally, PCU are only available when no allowances remain in the system for regular auction or within the APCR, which is unlikely until at least 2026. Barring PCU, auctioned allowances would sell at a maximum of the price ceiling.

With respect to the suite of price containment options, CPI recommends that the Department consider the following options:

- Do not initially frontload allowances from future years in the APCR, but reserve this option as a fallback plan that could be implemented as soon as the end of the first year of the program if higher than anticipated prices do materialize.³
- Given concerns of higher than anticipated allowance prices, CPI believes it is worth considering delaying or limiting General Market Participants (GMP) participation in auctions for at least the first compliance period unless necessitated by program linking requirements. APCR and Price Ceiling auctions are already not open to GMP. CPI suggests evaluating the option of temporarily extending that to all auctions. The inclusion of GMPs exerts upward pressure on allowance prices by increasing demand largely structured around speculation and market liquidity. Based on the Vivid Economics scenarios, even dialing back but not fully eliminating GMP participation would provide about half as much price relief through 2026 as frontloading of APCR allowances.
- If the Department is not comfortable with the range of potential allowance price outcomes that may occur absent frontloading of APCR, a more straightforward approach than frontloading APCR allowances would be to set a lower price ceiling in the early years of the program. This could be structured around some determination of a *maximum acceptable price*. Ahead of any potential program linking, there is no reason that the price ceiling has to align with the California-Quebec program, although it would likely need to be aligned once linkage begins. Because allowances equivalent to just 30 percent of annual emissions must be retired in the initial three years of a compliance period, it is very unlikely that “price ceiling units” would be required before 2026 at the earliest even with a lower price ceiling. This leaves sufficient time for program review and adjustment once prevailing market conditions are established. If price ceiling units are used, the Department has the option to move subsequent allowances from auctions to the emissions containment reserve to maintain the overall long-term integrity of the cap.

END OF COMMENTS

³ Although CPI is not recommending frontloading of APCR allowances, if any frontloading does occur it is important to clarify retirement preference for vintageless relative to vintaged allowances. Vintaged allowances have a clear order of retirement (oldest first). APCR allowances, as “vintageless”, may be interpreted to receive preferential treatment by not being subject to any order of retirement. CPI does not believe they should be preferenced relative to allowances distributed through regular quarterly auctions. It would also be important to institute purchase limits on APCR allowances in a proportionally similar manner to purchase limits in regular auctions.